NEOSMELT

Information Sheet

Collaborating to accelerate steel value chain decarbonisation

NeoSmelt brings together the expertise of BHP, BlueScope, Mitsui Iron Ore Development, Rio Tinto and Woodside Energy to investigate the development of the country's largest ironmaking Electric Smelting Furnace (ESF) pilot plant.

The project aims to validate ESF technology at pilot scale and has selected the Kwinana Industrial Area in Western Australia as the pilot plant location. The Western Australian Government announced in December 2024 that it will support the NeoSmelt project. The Feasibility Study will be supported by the Australian Renewable Energy Agency (ARENA) as announced in June 2025.

If successful, NeoSmelt has the potential to advance a technology to help tackle one of the most pressing issues facing the global iron and steel industry: decarbonisation.

Explore lower-emissions[1] steelmaking pathways for Pilbara iron ores

Iron ore is Australia's largest export and steel is the most widely used metal globally

Share expertise to jointly optimise innovative technologies

Cross industry collaboration and support are key to decarbonisation

Unlock potential for new skills and capabilities

The project aims to enable the development of skills around decarbonisation technologies

Planned schedule

- **February 2024**
  NeoSmelt Project launched in Port Kembla, NSW
- **December 2024**
  Pilot plant location announced in Kwinana, WA
- **May 2025**
  Decision to proceed to feasibility
- **H2 2026**
  Final investment decision (FID)
- **2028**
  Planned operations expected to begin

for illustrative purposes only

1. *Compared to the conventional blast furnace – basic oxygen furnace (BF-BOF) process*

Why is it important to decarbonise iron and steel production?

Iron and steel production

Steel is the most widely used metal in the world and is essential in infrastructure, transportation and buildings. It is also a crucial material in decarbonisation.

Iron and steelmaking contribute to approximately 8% of global CO_2 emissions.[2]

Traditional steelmaking uses metallurgical coal via a blast furnace route.

2. Rio Tinto (2024), A new way to decarbonise steelmaking

Australian iron ore industry

Western Australia's Pilbara region produced 949 million tonnes of iron ore in 2023, accounting for 38% of global supply.[3]

Iron ore is Australia's largest export, with the Pilbara region alone contributing more than 60,000 direct jobs and generating A$9.4 billion in royalty revenue for the Western Australia Government in 2023.

3. Government of Western Australia, Department of Jobs, Tourism, Science and Innovation, WA Iron Ore Profile - May 2024, accessed 12 October 2024

Why NeoSmelt?

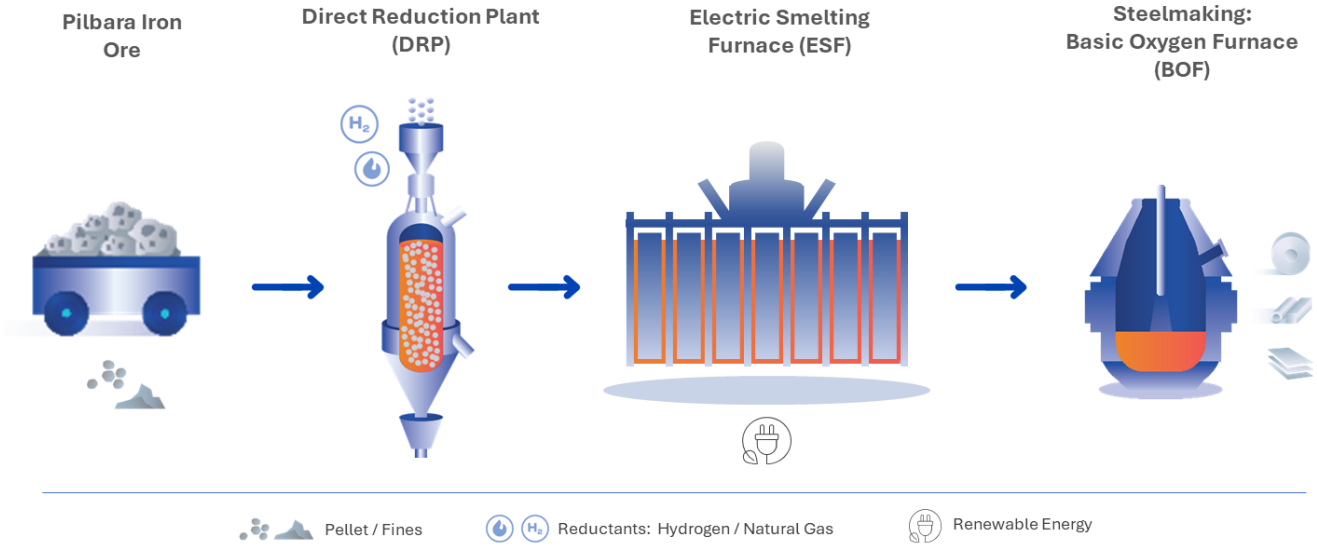
A potential lower-emissions[4] steelmaking alternative, for Pilbara iron ore in particular, would involve direct reduced iron (DRI) with an ESF.

The NeoSmelt pilot plant is intended to test and optimise production of iron from the ESF, a type of furnace being developed by leading steel producers and technology companies targeting lower-emissions[4] intensity steel.

4. Compared to the conventional blast furnace – basic oxygen furnace (BF-BOF) process

Iron and steel production using DRI with an ESF

Iron ore is converted into DRI using natural gas or hydrogen as a reductant. DRI is charged into the ESF, removing remaining impurities to produce iron suitable for the basic oxygen steelmaking process. NeoSmelt's Direct Reduction Plant (DRP) technology is to be supplied by Tenova and its ESF technology is to be supplied by Hatch.



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